

050345

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<110> NAGOYA INDUSTRIAL SCIENCE RESEARCH INSTITUTE
YOSHIOKA, Hirofumi

<120> Pathogen-responsive promotor

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<151> 2002-12-03

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<151> 2003-08-18

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Val Ala Leu Ala Val Pro Leu Pro Leu Pro Pro Thr Ser Ala Pro Ser
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Ser Ser Ser Ser Ser Ser Ser Ser Pro Leu Pro Thr Pro Leu His Phe
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Ser Glu Leu Glu Arg Val Asn Arg Ile Gly Ser Gly Thr Gly Gly Thr
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Val Tyr Lys Val Leu His Arg Pro Thr Gly Arg Leu Tyr Ala Leu Lys
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100

105

110

Val Ile Tyr Gly Asn His Glu Asp Ser Val Arg Leu Gln Met Cys Arg
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Glu Ile Glu Ile Leu Arg Asp Val Asp Asn Pro Asn Val Val Arg Cys
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Arg Arg Lys Ile Val His Arg Asp Ile Lys Pro Ser Asn Leu Leu Ile
195 200 205

Asn Ser Arg Arg Glu Val Lys Ile Ala Asp Phe Gly Val Ser Arg Val
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Tyr Met Ser Pro Glu Arg Ile Asn Thr Asp Leu Asn His Gly Gln Tyr
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Asp Gly Tyr Ala Gly Asp Ile Trp Ser Leu Gly Val Ser Ile Leu Glu
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Phe Tyr Leu Gly Arg Phe Pro Phe Ser Val Gly Arg Gln Gly Asp Trp
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Ala Ser Leu Met Cys Ala Ile Cys Met Ser Gln Pro Pro Glu Ala Pro
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Pro Thr Ala Ser Arg Glu Phe Arg Glu Phe Ile Ala Cys Cys Leu Gln
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Arg Asp Pro Ala Arg Arg Trp Thr Ala Ala Gln Leu Leu Arg His Pro
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Phe Ile Thr Gln Asn Ser Pro Gly Thr His Thr Gly Pro Ala Thr Thr
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Arg Pro Arg Arg Arg Thr Asp Leu Thr Leu Pro Leu Pro Gln Arg Asp
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Val Ala Leu Ala Val Pro Leu Pro Leu Pro Pro Thr Ser Ala Pro Ser
50 55 60

Ser Ser Ser Ser Ser Ser Ser Ser Pro Leu Pro Thr Pro Leu His Phe
65 70 75 80

Ser Glu Leu Glu Arg Val Asn Arg Ile Gly Ser Gly Thr Gly Gly Thr
85 90 95

Val Tyr Lys Val Leu His Arg Pro Thr Gly Arg Leu Tyr Ala Leu Lys
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Val Ile Tyr Gly Asn His Glu Asp Ser Val Arg Leu Gln Met Cys Arg
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Glu Ile Glu Ile Leu Arg Asp Val Asp Asn Pro Asn Val Val Arg Cys
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His Asp Met Phe Asp His Asn Gly Glu Ile Gln Val Leu Leu Glu Phe
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195 200 205

Asn Ser Arg Arg Glu Val Lys Ile Ala Asp Phe Gly Val Ser Arg Val
210 215 220

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Tyr Met Ser Pro Glu Arg Ile Asn Thr Asp Leu Asn His Gly Gln Tyr
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Asp Gly Tyr Ala Gly Asp Ile Trp Ser Leu Gly Val Ser Ile Leu Glu
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<223> primer for RT-PCR

<400> 19
catcccttaa aattataagt attc 24

<210> 20
<211> 25
<212> DNA
<213> Artificial

<220>
<223> primer for RT-PCR

<400> 20
aataatgata caaaataaat taagg 25

<210> 21
<211> 2231
<212> DNA
<213> Solanum tuberosum

<400> 21
atggccctag ctatccccctt taacaatgaa gaggagattg ttcgccctgt tgccaatttc 60

tctccaagtc tttgggggtga tcgtttccat tcattctctc tcgacaatca ggtaattact 120

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taattaatta	ctaattaaat	ccttctctat	cgcttatatt	tggttaatta	ctactaatcc	180
caatcatgaa	cattttacag	gttgctgaaa	agtatgctca	agagattgaa	actttgaagg	240
aacaaacaag	gagtttggtg	tctgctgctg	cttggtggaat	aacattggct	gagaaaattga	300
atctgataga	cattggtgag	cgccctggct	tagcttatca	ttttgagaaa	caaatagatg	360
atatgttgga	tcaaatttac	aaagcagatc	ccaactttga	cgctcatgat	ttaaacactt	420
tatcccttca	atttcgaata	ttaagacaac	atgggttaca	tatctcccaa	agtaggtcca	480
tcatttaaaa	caattcacca	aaataatacg	tttttttctg	catgaaaact	aattatcttt	540
tgcttttatt	cgatcatgat	ccagaatttt	tcagcagatt	ccaagatgcg	aatggcaagt	600
tcaaggaatg	tcttagcaac	gacatcaggg	gtctattgaa	cttatacgaa	gcttcacatg	660
taaggactca	tggagaagat	attttagaag	aggcacttgt	tttctccact	gctcatcttg	720
agtctgcagc	tccacatttg	gagtcacctc	tgagtaagca	agtgactcat	gcccttgagc	780
agtctctcca	taagagcatt	ccaagagtcg	agacgcgcta	cttcatctcc	atctacgaag	840
aggaggaatt	taagaatgat	gtgttgcttc	gatttgccaa	attggattac	aacttactcc	900
agatgttgca	caaacacgaa	cttagtgaag	tatcaaggta	tacagatgtg	ttaagttgaa	960
ttaaaaatac	tagtataaat	tatttggtga	tagtaatttc	taagattggg	acttattttg	1020
taggtggtgg	aaagatttgg	attttgtgac	aacgcttcca	tatgctaggg	atagagcagt	1080
ggaatgttac	ttttggacga	tgggagtgtg	tgctgaacct	caatactctc	aggctcgtgt	1140
catccttgca	aagactatag	caatgatttc	gatagtagat	gacacattcg	atgcttatgg	1200
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aacagttcat	ggatttatta	gacgggaaac	ttactaaatc	tctttctggt	ttattaggtg	1320
ggatattagt	caaattgatc	gactcccaga	atacatgaaa	gttagtttta	aggctctttt	1380
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ctacgcaaaa	gaaagagtag	gactcactga	tttctattta	aaaacacttg	tatttacctt	1500
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acatattact	tgctaactac	aacatcctat	ttgggagtga	agtcagcaac	aaaggaagat	1740
tttgaatggg	tggctacgaa	ccctaaaatt	cttgaagcca	atgtgacatt	atgccgagtt	1800
gttgatgaca	tagcaacgta	tgaggtaatt	agcatcgcat	tacactacat	aatcatctt	1860
ataatttaga	gttacagtaa	tttaatacaa	attgatttca	catacttata	aatgaattat	1920
aattgccatt	ccagggtgag	aagggtaggg	gccaaatcgc	aacaggaatt	gagtgttata	1980

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tgagggatta tgacgtatca acagaagtag caatggaaaa attccaagag atggctgaga	2040
tagcatggaa ggatgtaaat gaaggaattc ttcgaccaac acctgtctct acagaaattc	2100
ttactcgcac tctcaatctt gctcgtatta tagatgtcac ttacaagcac aatcaagatg	2160
gatacactca tcccgaaaaa gttctaaaaac ctcacatcat tgctttactg gtggactcca	2220
ttgagatcta a	2231

<210> 22
 <211> 1337
 <212> DNA
 <213> Solanum tuberosum

<400> 22	
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tgcactcatg ctataattac atactaagat tttatgtaat gctatatattt ttcaagttga	120
agacggaaac aatagcattg gatcaagaca gacgccattg aaggaagaaa aaacctaataa	180
aaataaaca aaggagagac actttcttgg tcccttcgag gccatatatc ccattaatat	240
aaaaatataa aacaaaaaaa aagacagacg gtcgccaag gaaagaaggc ggacgtcact	300
aacggctaac cctaactaca aataatgtaa ttttcaaaa acggaactat aaggaataaa	360
aaacatgaag attattgagt attattaatt tttaaaagac agacgccact cgaggaaata	420
aggaatcaca aggagtaaag aaagaaatta aaggcacgtt acagtatcat ataataaaa	480
tttaagtttg gttgcattga agttatatag tttttaaaaa aaaataaaat tgtccaacaa	540
tacttggtcca atttagaaaa tctaaaagat aattttattat tttgtgtttg ttttacctca	600
acatctaata catttctcaa attattaaat ttaatatatt caaaaggtaa tatagtaata	660
ttactcttat tattttattt ttgtttctta agatttgtgc aggtcaataa taaataacta	720
tcgttgaatt aagggagtac catcaaagaa attgatttat aacacgatgc ggggtggaggg	780
agctagaaag ttagtacaaa tttggttgca ctaagtactt catccgtctc aatttatgag	840
attttgtttg attcgagacg aaatttaata aagatgattt ttttaaagtt gtaatctaaa	900
acaagtcata aatatttgca tcactataat aatctcatta aatgtaaag aatattttta	960
gctaaattat tactactccc tccatgtcca tattagttga tcatcttact atatattaac	1020
tgtccacctt actcaattaa taaaatatta attaaagttt ttctatacta gatataaaaa	1080
tgttattatt atttttgata aagactagaa agagtatact atttgtatat ctacagtggg	1140
acgaccagtt aagtatattg tagtcaaagt aaggcaaccg gatggactgc atgcagcaca	1200
aaggctctca ccactataaa tactcaatat tccttctctt tcatttccat caacaccttc	1260
accaactaac aaattaaaag aaagaaaaaa aaatctctca gtttcctcac aagctaatta	1320
gacccgtttc cgaagaa	1337

<210> 23
 <211> 50
 <212> DNA
 <213> Solanum tuberosum

<400> 23
 gtccgccctt actattccca tccgatctct tgggaagcgg gggagaaaat 50

<210> 24
 <211> 1287
 <212> DNA
 <213> Solanum tuberosum

<400> 24
 tttataatag tgcactcatg ctataattac atactaagat tttatgtaat gctatatttt 60
 ttcaagttga agacggaaac aatagcattg gatcaagaca gacgccattg aaggaagaaa 120
 aaacctaataa aaataaaca aaggagagac actttcttgg tcccttcgag gccatatatc 180
 ccattaatat aaaaatataa aacaaaaaaa aagacagacg gtcgccaag gaaagaaggc 240
 ggacgtcact aacggctaac cctaactaca aataatgtaa ttttccaaa acggaactat 300
 aaggaataaa aaacatgaag attattgagt attattaatt tttaaaagac agacgccact 360
 cgaggaaata aggaatcaca aggagtaaag aaagaaatta aaggcacgtt acagtatcat 420
 ataataataa ttttaagttg gttgcattga agttatatag tttttaaaaa aaaataaaat 480
 tgtccaacaa tacttgtcca atttagaaaa tctaaaagat aatttattat tttgtgtttg 540
 ttttacctca acatctaata cttttctcaa attattaaat ttaatatatt caaaaggtaa 600
 tatagtaata ttactcttat tttttattta ttgtttctta agatttgtgc aggtcaataa 660
 taaataacta tcgttgaatt aagggagtac catcaaagaa attgatttat aacacgatgc 720
 ggggtggaggg agctagaaaag ttagtacaaa tttggttgca ctaagtactt catccgtctc 780
 aatttatgag attttgtttg attcgagacg aaatttaata aagatgattt ttttaaagtt 840
 gtaatctaaa acaagtcata aatatttgca tcactataat aatctcatta aatgtaaag 900
 aatattttta gctaaattat tactactccc tccatgtcca tattagttga tcactttact 960
 atatattaac tgtccacctt actcaattaa taaaatatta attaaagttt ttctatacta 1020
 gatataaaaa tgttattatt atttttgata aagactagaa agagtatact atttgtatat 1080
 ctacagtggg acgaccagtt aagtatattg tagtcaaagt aaggcaaccg gatggactgc 1140
 atgcagcaca aaggctctca ccactataaa tactcaatat tccttctctt tcatttccat 1200
 caacaccttc accaactaac aaattaaaag aaagaaaaaa aaatctctca gtttcctcac 1260
 aagctaatta gacccgtttc cgaagaa 1287

<210> 25
 <211> 30

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<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 25
cggaattcctt gtaatcctta ttaggatta 30

<210> 26
<211> 30
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 26
cggaattcgt ccgcccttac tattcccatc 30

<210> 27
<211> 30
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 27
cggaattcctt tataatagtg cactcatgct 30

<210> 28
<211> 30
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 28
cggaattcgc tatatTTTTT caagttgaag 30

<210> 29
<211> 30
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 29
cggaattcga cgccattgaa ggaagaaaaa 30

<210> 30
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<212> DNA
<213> Artificial

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<220>
<223> primer for PCR

<400> 30
cggaattcac tttcttggtc ccttcgaggc 30

<210> 31
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<212> DNA
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<220>
<223> primer for PCR

<400> 31
cggaattcaa caaaaaaaaaa gacagacggt 30

<210> 32
<211> 30
<212> DNA
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<220>
<223> primer for PCR

<400> 32
cggaattcgt tatatagttt ttaaaaaaaaa 30

<210> 33
<211> 30
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<220>
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<400> 33
cggaattcga ttataacac gatgcgggtg 30

<210> 34
<211> 30
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<220>
<223> primer for PCR

<400> 34
cggaattctt actatatatt aactgtccac 30

<210> 35
<211> 30
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

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<400> 35
ccatcgattc ctcttcattg ttaaagggga

30

<210> 36
<211> 28
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 36
ttgggcccat gcgaccttt caaccacc

28

<210> 37
<211> 27
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 37
gactagtaca aaagagtgtg gaattac

27

<210> 38
<211> 26
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 38
gtcgacgaca cagccacgta cgaggt

26

<210> 39
<211> 26
<212> DNA
<213> Artificial

<220>
<223> primer for PCR

<400> 39
atcgatagac tttctccgga tgagtg

26